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PRODUCT LIABILITY LITIGATION AND THE CONCEPT OF DEFECTIVE GOODS: "REASONABLENESS" REVISITED?

VINCENT S. WALKOWIAK*

It must be understood that the words "unreasonably dangerous" have no independent significance and merely represent a label to be used where it is determined that the risk of loss should be placed upon the supplier.¹

WHEN THE NEW YORK Court of Appeals in *MacPherson v. Buick Motor Co.*² eliminated the requirement that a plaintiff establish privity of contract with a manufacturer before bringing a negligence suit for personal injuries caused by a defective product, they ushered in the modern era of products liability. The variety of devices available to the plaintiff to establish the fault, and therefore liability, of a manufacturer for manufacturing flaws steadily increased.³ Initial satisfaction with the efficiency of such procedural devices as *res ipsa loquitur* to shift the costs of compensating for injuries, however, slowly wore off and pro-plaintiff jurists gradually began questioning even substantive rules of liability. By 1944, Judge Traynor, in a concurring opinion in *Escola v. Coca Cola Bottling Co.*,⁴ stated:

In leaving it to the jury to decide whether the inference [created by *res ipsa loquitur*] has been dispelled, regardless of the evidence against it, the negligence rule approaches the rule of strict liability. It is needlessly circuitous to make negligence the basis of recovery

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¹ *Azzarello v. Black Bros. Co.*, ___ Pa. ___, 391 A.2d 1020, 1025 (1978).

² 217 N.Y. 382, 111 N.E. 1050 (1916).

³ See Gilliam, *Products Liability in a Nutshell*, 37 ORE. L. REV. 119 (1957).

⁴ 24 Cal. 2d 453, 150 P.2d 436 (1944).

and impose what is in reality liability without negligence . . .⁵

Thirteen years later, Professor Fleming James also questioned whether manufacturers should be liable for injuries caused by their products in the absence of negligence.⁶ In the twenty years since James stated the question, courts have been consistently answering his inquiry in the affirmative.⁷ As a result, injury losses

⁵ 150 P.2d at 441. Justice Traynor did however acknowledge that a manufacturer may offer evidence to rebut this inference and where the evidence is clear, positive, and uncontradicted, the manufacturer may even be entitled to a directed verdict. *Id.*

⁶ James, *General Products—Should Manufacturers Be Liable Without Negligence?*, 24 TENN. L. REV. 923, 924 (1957). See also James, *Products Liability*, 34 TEX. L. REV. 44, 192 (1955); Prosser, *Assault Upon the Citadel*, 69 YALE L. J. 1099 (1960).

⁷ *Atkins v. American Motors Corp.*, 335 So. 2d 134 (Ala. 1976); *Clary v. Fifth Ave. Chrysler Center, Inc.*, 454 P.2d 244 (Alas. 1969); *O. S. Stapley Co. v. Miller*, 103 Ariz. 556, 447 P.2d 248 (1968); *Greenman v. Yuba Power Products Inc.*, 59 Cal. 2d 57, 377 P.2d 897, 27 Cal. Rptr. 697 (1963); *Bradford v. Bendix-Westinghouse Automotive Air Brake Co.*, 33 Colo. App. 99, 517 P.2d 406 (1973); *Garthwait v. Burgio*, 153 Conn. 290, 216 A.2d 189 (1965); *Nacci v. Volkswagen of America, Inc.*, 325 A.2d 617 (Del. Super. Ct. 1974); *West v. Caterpillar Tractor Co.*, 336 So. 2d 80 (Fla. 1976); *Stewart v. Budget Rent-A-Car Corp.*, 52 Hawaii 71, 470 P.2d 240 (1970); *Shields v. Morton Chem. Co.*, 95 Idaho 674, 518 P.2d 857 (1974); *Suvada v. White Motor Co.*, 32 Ill. 2d 612, 210 N.E.2d 182 (1965); *Cornette v. Searjeant Metals Prod. Inc.*, 147 Ind. App. 46, 258 N.E.2d 652 (1970); *Hawkeye-Security Ins. Co. v. Ford Motor Co.*, 174 N.W.2d 672 (Iowa 1970); *Hartman v. Miller Hydro Co.*, 499 F.2d 191 (10th Cir. 1974) (applying Kansas law); *Dealers Transp. Co. v. Battery Dist. Co.*, 402 S.W.2d 441 (Ky. 1966); *Chappuis v. Sears Roebuck & Co.*, 358 So. 2d 926 (La. 1978); *Phipps v. General Motors Corp.*, 278 Md. 337, 363 A.2d 955 (1976); *Snider v. Bob Thibodeau Ford, Inc.*, 42 Mich. App. 708, 202 N.W.2d 727 (1972); *McCormack v. Hanksraft Co.*, 278 Minn. 322, 154 N.W.2d 488 (1967); *State Stove Mfg. Co. v. Hodges*, 189 So. 2d 113 (Miss. 1966); *Keener v. Dayton Elec. Mfg. Co.*, 445 S.W.2d 362 (Mo. 1969); *Brandenburger v. Toyota Motor Sales, U.S.A., Inc.*, 162 Mont. 506, 513 P.2d 268 (1973); *Kohler v. Ford Motor Co.*, 187 Neb. 428, 191 N.W.2d 601 (1971); *Shoshone Coca-Cola Bottling Co. v. Dolinski*, 82 Nev. 439, 420 P.2d 855 (1966); *Buttrick v. Arthur Lessard & Sons, Inc.*, 110 N.H. 36, 260 A.2d 111 (1969); *Scanlon v. General Motors Corp.*, 65 N.J. 582, 326 A.2d 673 (1974); *Stang v. Hertz Corp.*, 83 N.M. 730, 497 P.2d 732 (1972); *Goldberg v. Kollsman Inst. Corp.*, 12 N.Y.2d 432, 191 N.E.2d 81, 240 N.Y.S. 2d 592 (1963); *Lonzrick v. Republic Steel Corp.*, 6 Ohio St. 2d 227, 218 N.E.2d 185 (1966); *Kirkland v. General Motors Corp.*, 521 P.2d 1353 (Okla. 1974); *Wights v. Staff Jennings, Inc.*, 241 Ore. 301, 405 P.2d 624 (1965); *Berkebile v. Brantley Helicopter Corp.*, 462 Pa. 83, 337 A.2d 893 (1975); *Ritter v. Narragansett Elec. Co.*, 109 R.I. 176, 283 A.2d 255 (1971); *Engberg v. Ford Motor Co.*, 87 S.D. 196, 205 N.W.2d 104 (1973); *Ford Motor Co. v. Lonon*, 217 Tenn. 400, 398 S.W.2d 240 (1966); *Rourke v. Garza*, 530 S.W.2d 794 (Tex. 1975); *Rigby v. Beech Aircraft Co.*, 548 F.2d 288 (10th Cir. 1977) (applying Utah law); *Ulmer v. Ford Motor Co.*, 75 Wash. 2d 522, 452 P.2d 729 (1969); *Dippel v. Sciano*, 37 Wis. 2d 443, 155 N.W.2d 55 (1967); *Maxled v. Pacific Car & Foundry Co.*, 527 P.2d 832 (Wyo. 1974). Strict lia-

once borne by individual users and consumers of products have been shifted increasingly to the sellers and manufacturers of those products. The question to be addressed by this article is whether that shift has improved the overall workings of our tort loss distribution system.

I. THEORIES OF PRODUCTS LIABILITY

Although early non-negligence products liability theory was often couched in terms of warranties, the advent of strict liability marked the decline of contract warranty as the sole basis of the cause of action. A development concurrent with the judicial creation of strict liability was the almost total absorption of the warranty action into the Uniform Commercial Code (UCC) as that statute gained increased legislative acceptance. In the early stages of the theoretical development of the concept of strict liability for product related injuries, a pitched battle was waged between the theorists who favored the common law development of the strict liability action and those who argued legislative preemption by the UCC.⁸ There remains a hard core of activists who continue to argue persuasively that the courts abused their common law prerogatives in adopting the doctrine of strict liability in tort⁹ while ignoring a legitimate legislative enactment which defined non-negligence liability for products; however, the position that the warranty sections of Article Two of the UCC preempt the field is of only mild historical interest at this point.¹⁰

bility has been assumed to be a viable doctrine in North Carolina. *Coffer v. Standard Brands, Inc.*, 30 N.C. App. 134, 226 S.E.2d 534, 539 (1976).

A strongly contrary position has been asserted by the Massachusetts Supreme Court in *Swartz v. General Motors Corp.*, — Mass. —, 378 N.E.2d 61 (1978).

There has also been legislative adoption of the concept of strict liability as a cause of action. See GA. CODE, tit. 105 §§ 1-13a (1978); ME. REV. STAT. ANN. art. 14 § 221 (1973); S.C. CODE § 15-73-10 (1977).

⁸ See generally, James, *supra* note 6, Prosser, *supra* note 6, Titus, *Restatement (Second) of Torts Section 402A and the Uniform Commercial Code*, 22 STAN. L. REV. 713 (1970); Wade, *Is Section 402A of the Second Restatement of Torts Preempted by the UCC and Therefore Unconstitutional?*, 42 TENN. L. REV. 123 (1974).

⁹ See generally Shanker, *A Case of Judicial Chutzpah, (The Judicial Adoption of Strict Tort Products Liability Theory)*, 11 AKRON L. REV. 697 (1978).

¹⁰ As the court stated in *Clary v. Fifth Ave. Chrysler Center*, 454 P.2d 244 (Alas. 1969), in rejecting the defendants' contention that the UCC governed the plaintiffs' cause of action:

The argument is that the law of sales contract warranties as con-

The Supreme Court of California provided the initial justification for disregarding the UCC in this area when the court in *Greenman v. Yuba Power Products, Inc.*,¹¹ stated:

[S]trict liability has usually been based on the theory of an express or implied warranty running from the manufacturer to the plaintiff, the abandonment of the requirement of a contract between them, the recognition that the liability is not assumed by agreement but imposed by law [citations omitted], and the refusal to permit the manufacturer to define the scope of its own responsibility for defective products [citations omitted], make clear that the liability is not one governed by the law of contract warranties but by the law of strict liability in tort. Accordingly, rules defining and governing warranties that were developed to meet the needs of commercial transactions cannot properly be invoked to govern the manufacturers' liability to those injured by their defective products *unless those rules also serve the purposes for which such liability is imposed*.¹²

The arguments that such rules as were adopted by the drafters of the UCC served such a purpose, no matter how well thought out or artfully presented, were consistently rejected as pro-plaintiff courts adopted the new doctrine of strict liability.¹³

strued by the Courts affords the same protection to the consumer as that provided by the rule of strict liability. We have considered appellee's contentions but are of the view that the doctrine of strict liability in tort as defined in *Greenman* affords the most logical, least technical and most comprehensive coverage with respect to the factual situations where it is applicable.

Id. at 248. See note 7 *supra*. But see *Southwest Forest Indus. v. Westinghouse Elec. Corp.*, 422 F.2d 1013 (9th Cir.), *cert. denied*, 400 U.S. 902 (1970); *Kaiser Steel Corp. v. Westinghouse Elec. Corp.*, 55 Cal. App. 3d 737, 127 Cal. Rptr. 838 (1976).

¹¹ 59 Cal. 2d 57, 377 P.2d 897, 27 Cal. Rptr. 697 (1963).

¹² 377 P.2d at 901, 27 Cal. Rptr. at 701 (emphasis added).

¹³ See, e.g., *Greenman v. Yuba Power Products, Inc.*, 59 Cal. 2d 57, 377 P.2d 897, 27 Cal. Rptr. 697 (1963); *Suvada v. White Motor Co.*, 32 Ill. 2d 612, 210 N.E.2d 182 (1965). In defending its decision to adopt strict liability, the Maryland Court of Appeals recently stated:

[T]here still remain various other requirements and limitations imposed by contract law which may be encountered when pursuing an action for breach of warranty but not when seeking damages for injury caused by a defective product under the theory of strict liability in tort.

Phipps v. General Motors Corp., 278 Md. 337, 363 A.2d 955, 961 (1976). But cf. *Back v. Wicker Corp.*, 378 N.E.2d 964 (Mass. 1978) (Massachusetts UCC amended to incorporate the strict liability action eliminating the need for judicial adoption of the theory).

The doctrine of strict liability, then, was a doctrine of tort law which would have to be interpreted with and contrasted to other theories of tort liability. The courts, in the exercise of their authority to contribute to the growth of the common law, had the right to create this new cause of action because they had the power to create it. Although the courts did not have the legislatures' resources prior to creating and putting into effect this new theory of liability, they conveniently answered this criticism by a reaffirmation of faith in the case-by-case common law system for resolution of the many interstitial questions presented by the adoption of this theory of liability.¹⁴ And while the parameters and many of the interstitial details of the theory are yet to be fashioned, much has been done since the California Supreme Court first endorsed the doctrine.¹⁵ Most critically, the doctrine has been expanded in scope, requiring a re-evaluation of its impact upon tort loss distribution and the goals of liability imposition. This evaluation can be accomplished by comparison and contrast to "fault" based liability.¹⁶ It is the function of this paper to explore that comparison and set forth those contrasts.

II. LOSS DISTRIBUTION-NEGLIGENCE VERSUS STRICT LIABILITY

Fault based liability is imposed when an actor has fallen below a legally defined standard of care. By adopting this standard of care, society has accepted that injuries caused by actors who have not fallen below the standard of care will remain uncompensated. That is, to the extent that participating in a particular activity in a particular fashion does not violate the legally defined standard of care, society subsidizes that activity by requiring that the victims of the injuries which are the normal consequence of that

¹⁴ See *Greenberg v. Lorenz*, 12 Misc. 2d 883, 178 N.Y.S.2d 407, 411 (Sup. Ct. 1958); *Santor v. A. & M. Karagheusian, Inc.*, 44 N.J. 52, 207 A.2d 305, 313 (1965).

¹⁵ *Greenman v. Yuba Power Products, Inc.*, 59 Cal. 2d 57, 377 P.2d 877, 27 Cal. Rptr. 697 (1963).

¹⁶ This reference to "fault" based liability is a comparison of the rules adopted to effect "manufacturers strict liability" to the more familiar negligence standard and does not mean to imply that strict liability as it affects products is intended to be a doctrine totally removed from the "fault" based loss distribution mechanism. As will become clear, manufacturer's strict liability fulfills many of the social goals set for fault based liability. See cases cited note 38 *infra*.

activity bear the costs of their own injuries.¹⁷ When the standard of care is violated, the injuries legally and factually caused by the violation of the standard of care become a cost of participation in the activity. It is, of course, a societal decision at which level to set the standard of care for participation in a given activity. For most activities this is customarily the level of "reasonable care."¹⁸

It is important to note that there is a dual or two-pronged purpose for setting any standard for loss distribution. In fault based liability, these dual purposes may be described as follows. In the first prong, the actors participating in a given activity are theoretically deterred from falling below the established standard of care by reason of the fear of financial liability for those injuries which are caused by their breach of the minimum standard of care. In theory, therefore, if deterrence is sufficient, the number of injuries caused by actors falling below the standard of care is reduced, since there are fewer actors who fall below the standard.¹⁹

¹⁷ Thus, for example, if the legally defined standard of care happens to be an established speed limit, and if a person's injuries are legally and factually caused as a result of an actor's traveling in excess of that speed limit, then the fault system would permit imposition of liability upon the actor. Conversely if the person's injuries were factually and legally caused by the actor's traveling at the speed limit, no compensation would be forthcoming; the injured party would be expected to bear his own losses.

¹⁸ But cf. Reynolds, *Strict Liability for Commercial Service—Will Another Citadel Crumble?*, 30 OKLA. L. REV. 298 (1977) (predicting elimination of the reasonable care standard).

¹⁹ That any form of tort loss distribution should have as one of its purposes the deterrence of injuries is, of course, an *a priori* premise of fault based liability. It is assumed that most, if not all actors are capable of meeting this standard of care. Phrased differently, fault based liability assumes that the actor could have prevented the injury producing event through some conduct over which the actor had control.

A facile argument can be postulated that the "fault" lies simply in participating in the activity. However, in the absence of a declaration that the act of participation in the activity is itself fault-laden, this would form a basis for liability only if some other standard of care had also been breached or if the basis for liability is a standard related to conduct which is non-fault based. Nonetheless, in the single area which has engendered the largest interest regarding the parameters to which fault-based liability is, or should be stretched, that of the automobile driver, there is considerable evidence that a driver's ability may not be responsible for automobile accidents, but that inherent human limitations on drivers' abilities exist which may be exacerbated by environmental conditions or debilitating agents such as carbon monoxide. U.S. DEPT. OF TRANSP., DRIVER BEHAVIOR AND ACCIDENT INVOLVEMENT: IMPLICATIONS FOR TORT LIABILITY 151-169 (1970). These conclusions militate toward better regulation of an enterprise to control injury producing conduct and the concomitant conclusion that personal financial culpability for injuries caused by "error" will not be totally

This has been described as the primary aspect of fault based liability.²⁰ In order for primary deterrence to have a maximum impact, of course, it should be addressed to the class of actors most readily deterred from participating in "faulty" conduct.²¹

The second aspect of fault based liability is secondary loss distribution. As noted, the result of imposing liability for only those injuries which are caused by a breach of the standard of care is that many injuries caused by an activity remain uncompensated by a system of fault-based liability. Of these injuries, the system takes no cognizance; but as to those injuries which do subject an actor to liability, the second aspect of fault based liability, secondary loss distribution, is involved.

In this second prong of the system of fault based liability, the disruptive effects of tort-"caused" injuries are to be mitigated when possible.²² That is, the most effective vehicle for loss transference is sought once the deterrent effects of the primary goal of fault based liability have been exhausted. When primary injuries have been reduced by the imposition of liability as low as they can be reduced consistently with the standard of care which has been adopted, then the crippling impact of economic loss which will follow the imposition of financial liability should be reduced. Thus, while fault based liability has a deterrent element, it does not have a punitive element. Measuring the conduct of the actor and comparing it to the objective standard of reasonable care as is done in negligence, can be contrasted to and compared with the standard—however defined—which is employed in strict liability in order to make the initial decision to shift losses.

Any analysis of strict liability of manufacturers as a loss dis-

effective to reduce injuries since "fault" is unrelated in many instances to anything even closely resembling the moral culpability to which a deterrent rule would be addressed.

²⁰ See Walkowiak, *Innocent Injury and Loss Distribution: The Florida Pure Comparative Negligence System*, 5 FLA. ST.U.L. REV. 66, 92 (1977) and references cited therein.

²¹ See note 19 *supra*.

²² Thus, rules which permit a tortfeasor to share liability with other tortfeasors through contribution among joint tortfeasors are to be encouraged. See Walkowiak, *supra* note 20. In addition, the purchase of liability insurance which permits losses to be spread temporally and personally is also permitted. See Walkowiak, *Implied Indemnity: A Policy Analysis of the Tort Loss Shifting Remedy in a Partial Loss Shifting Jurisdiction*, 30 U. FLA.L. REV. 501, 534 (1978).

tribution system should begin with a general review of the Restatement (Second) of Torts §402A. This section provides in relevant part that: "[o]ne who sells any product in a defective condition unreasonably dangerous to the user . . . or to his property is subject to liability for physical harm thereby caused to the ultimate user or consumer. . . ."²³

Under this standard, then, liability for injuries *caused* by products is imposed when the plaintiff establishes three elements: first, that the product caused the injury; second, that the product was defective when it left the defendant's premises; and, third, that the product was unreasonably dangerous. While the Restatement's definition of strict liability has not been universally followed, it has been adopted in substantially this form by most jurisdictions which recognize the strict liability cause of action. It serves, therefore, as a model with which to compare the theories of liability applied in those jurisdictions which have adopted slightly modified systems of strict liability.

As with fault or negligence, in strict liability a standard must be established to which products may be compared; when the products fall below the standard, liability may be imposed. If the standard is not breached, although injury may follow, liability may not be imposed.²⁴ The bulk of the jurisdictions adopting a system of strict liability for products have expressed that standard by

²³ RESTATEMENT (SECOND) OF TORTS § 402A (1965).

²⁴ This is just another way of stating the proposition that strict product liability is not absolute liability for injuries caused by products. As one court stated: Often the concept of strict liability is confused with liability that is absolute. Such confusion is understandable when one compares older editions of tort casebooks. The indexes of such books use the heading of "Strict Liability" in reference to cases dealing with absolute liability, e.g., *Fletcher v. Rylands*, 3 Hurl. & C. 774, L.R. 3 H.L. 330 (1868). See F. Bolen, *Cases on Torts*, 634 (4 Ed. 1941). "Some quibbler may allege that this is liability without fault. It is not. As is made clear above, a plaintiff relying upon the rule must prove a defect attributable to the manufacturer and causal connection between that defect and the injury or damage of which he complains. When able to do that, then and only then may he recover against the manufacturer of the defective product." *Piercefield v. Remington Arms Co.*, 375 Mich. 85, 133 N.W.2d 129, 135 (1965).

Passwaters v. General Motors Corp., 454 F.2d 1270, 1277, n.7 (8th Cir. 1972). See also *Foster v. Day & Zimmerman, Inc.*, 502 F.2d 867 (8th Cir. 1974); *Vineyard v. Empire Mach. Co.*, 119 Ariz. 502, 581 P.2d 1152 (Ariz. App. 1978); *Seattle First Nat'l Bank v. Tabert*, 86 Wash. 2d 145, 542 P.2d 774 (1974).

stating that the product causing injuries must be found to have been defective.²⁵ However, the standard to which the product is compared in order to reach a determination that the product is defective varies according to the nature of the alleged defect. While the majority of the early products liability cases involved liability for manufacturing defects,²⁶ a product also may be found defective if it contains a "design defect."

III. THE VARIETIES OF DEFECT

A. *Manufacturing Defects*

A cause of action in strict liability for a defectively manufactured product is reasonably straightforward; indeed it was the simplicity of the procedure that attracted pro-plaintiff jurists to it.²⁷ The standard for comparison of the allegedly defective product is provided by the manufacturer itself: a product contains a manufacturing defect when it does not meet the performance or safety standards which the manufacturer has set for its product. Thus, a bottle of soft drink which contains the decomposed remains of a rodent;²⁸ a stress member whose metal has not properly been cured causing it to fail to perform to the standards set for it by the manufacturer;²⁹ or the weight bearing member which fractures undetected during manufacture;³⁰ all are defective. The fact finder can simply compare the injury causing product to the average quality of the manufacturers' normally produced products. Under the Restate-

²⁵ But see *Chappuis v. Sears Roebuck & Co., Inc.*, 358 So. 2d 926 (La. 1978), discussed *infra* note 39.

²⁶ But see *Greenman v. Yuba Power Products, Inc.*, 59 Cal. 2d 57, 377 P.2d 897, 27 Cal. Rptr. 697 (1963), in which the alleged violation of the standard of care was inadequately designed and constructed set screws on a combination power tool.

²⁷ Thus, Justice Sullivan, speaking for the majority in *Cronin v. J.B.E. Olson Corp.*, 8 Cal. 3d 121, 501 P.2d 1153, 104 Cal. Rptr. 433 (1972) could state: "[T]he very purpose of our pioneering efforts in this field [strict liability] was to relieve the plaintiff from problems of proof inherent in pursuing negligence . . . and warranty . . . remedies. . . ." 8 Cal. 3d at 133, 501 P.2d at 1162, 104 Cal. Rptr. at 442.

²⁸ *Shoshone Coca-Cola Bottling Co. v. Dolinski*, 82 Nev. 439, 420 P.2d 855 (1966); *Ritter v. Coca-Cola Co.*, 24 Wis. 2d 157, 128 N.W.2d 439 (1964).

²⁹ *Pouncey v. Ford Motor Co.*, 464 F.2d 957 (5th Cir. 1972); *Sears, Roebuck & Co. v. Morris*, 273 Ala. 218, 136 So. 2d 883 (1961).

³⁰ *Moore v. Douglas Aircraft Co.*, 282 A.2d 625 (Del. Super. Ct. 1971).

ment test, the plaintiff must then persuade the fact finder that the product was unreasonably dangerous due to the defect.

The concept of "unreasonably dangerous" has been variously defined by the courts.³¹ In *Phillips v. Kimwood Machine Co.*,³² the Oregon Supreme Court stated: "A 'dangerously' defective article would be one which a reasonable person would not put into the stream of commerce *if he had knowledge of its harmful character*. The test, therefore, is whether the seller would be negligent if he sold the article *knowing of the risk involved*."³³

Thus, by reference back to the more familiar, if equally difficult to apply, negligence standard, the fact finder is expected to impute the knowledge of the defective condition of the product to the manufacturer. In essence, then, the *Kimwood* test shifts the focus of the reasonableness feature of the negligence standard from the conduct of the manufacturer to the condition of the product in order to provide the framework within which the fact finder is to apply this "reasonableness" aspect of the test.³⁴

The requirement that the product be "unreasonably dangerous" has also been stated in the disjunctive. With this phrasing, a product may be "unreasonably" dangerous under the *Kimwood* test, or if the product fails to meet the "reasonable" expectations of the ordinary consumer as to safety.³⁵ Thus, the Restatement's consumer

³¹ Although frequently phrased differently, these definitions represent the courts' attempt to apply comment i to the RESTATEMENT (SECOND) OF TORTS § 402A definition that to be unreasonably dangerous the "article sold must be dangerous to an extent beyond that which would be contemplated by the ordinary consumer who purchases it, with the ordinary knowledge common to the community as to its characteristics," and therefore are each the functional equivalent of a determination of reasonableness of expectation. See, e.g., *Moomey v. Massey-Ferguson*, 429 F.2d 1184 (10th Cir. 1970); *Slepski v. Williams Ford, Inc.*, 170 Conn. 18, 364 A.2d 175 (1975); *Kleve v. General Motors Corp.*, 210 N.W.2d 568 (Iowa 1973); *Vinor v. Esther Williams All-Aluminum Swimming Pool Co.*, 69 Wis. 2d 326, 230 N.W.2d 794 (1975).

³² 269 Or. 485, 525 P.2d 1033 (1974).

³³ 269 Or. at 494, 525 P.2d at 1037 (emphasis added).

³⁴ The court in *Kimwood* advocated the use of Professor Wade's seven criteria, discussed in text accompanying note 75 *infra*, in order to determine whether the trial judge should submit the issue of reasonableness to the jury. The criteria were not intended to serve as the basis for the instructions to the jury. 269 Or. at 501, 525 P.2d at 1040.

³⁵ See *Welch v. Outboard Marine Corp.*, 481 F.2d 252, 254 (5th Cir. 1973); *Henderson v. Ford Motor Co.*, 519 S.W.2d 87, 92 (Tex. 1974). But see *Turner v. General Motors Corp.*, 22 Tex. Sup. Ct. J. 272, 273 (No. B-7747 March 24, 1979) which expressly overruled *Henderson* for conscious design choice cases. See note 88 *infra*.

oriented view of unreasonable danger is expressly made an alternate definition of the standard by which the product is to be measured.³⁶

The standard for strict liability by which a mismanufactured product is measured, then, requires employing a dual test for determining whether a mismanufactured product is "defective." First, the plaintiff must establish that the product does not meet the standards which the manufacturer itself set for this line of products. That is, that the product is defective. Second, the plaintiff must establish that the product is "unreasonably dangerous" as a result of this defect. The requirement that the product be proven defective is relatively easily satisfied. The requirement that the product be proven "unreasonably dangerous" due to mismanufacture is also susceptible to the application of a standard with which the courts are comfortable, that is, "the reasonable expectation of the consumer" or the negligence standard—with an imputed knowledge component—a different form of "reasonableness" test.³⁷ This is true to such a degree that the concept of strict liability for mismanufacture has been equated with a revised definition of negligence per se by some jurisdictions.³⁸

³⁶ See footnote 31 *supra*.

³⁷ *Phillips v. Kimwood Machine Co.*, 269 Or. 485, 493 n.17, 525 P.2d 1033, 1041 n.17 (1974).

³⁸ See *Phipps v. General Motors Corp.*, 278 Md. 337, 363 A.2d 955 (1976); *McCormack v. Hanksraft Co.*, 278 Minn. 322, 154 N.W.2d 488 (1967). See also *Dippel v. Sciano*, 37 Wis. 2d 443, 155 N.W.2d 55 (1967), in which the Wisconsin Supreme Court stated:

Strict liability in tort for the sale of a defective product unreasonably dangerous to an intended user or consumer now arises in this state by virtue of a decision of this court. If this same liability were imposed for violation of a statute it is difficult to perceive why we would not consider it negligence per se for the purpose of applying the comparative negligence statute just as we have done so many times in other cases involving the so-called "safety statutes." Under the definition of negligence per se set forth in *Osborne*, [*Osborne v. Montgomery*, 203 Wis. 223, 240, 234 N.W. 372, 378 (1931)] a safety rule can trace its origin to a court decision as well as a statute. The violation of a safety statute can create a condition that constitutes an unreasonable risk of harm to others. Likewise, a defective product can constitute or create an unreasonable risk of harm to others.

155 N.W.2d at 64. This was effected in part to permit the court to apply the modified comparative negligence statute in effect in Wisconsin as a partial defense to the strict liability action.

In *Atkins v. American Motors Corp.*³⁹ the Alabama Supreme Court rejected the Restatement's "no-fault" concept of liability, but nevertheless went on to adopt a system of liability for manufacturers who manufacture and sell a "defective product which, because of its unreasonably unsafe condition, injured the plaintiff or damaged his property when such product, substantially unaltered, was put to its intended use."⁴⁰ The Alabama Supreme Court concluded that selling such a product was "negligence within itself" and that the fault of the manufacturer lies not in acting unreasonably in placing on the market a product which causes harm but in creating an unreasonable risk of harm.

The first serious inroad into the hegemony enjoyed by the Restatement's definition of the strict liability cause of action occurred when the "negligence" element of the Restatement's definition was questioned. The "unreasonably dangerous" requirement as an element of the cause of action for strict liability came under successful attack in *Cronin v. J.E.B. Olson Corp.*⁴¹ In *Cronin*, a manufacturing defect case,⁴² the California Supreme Court rejected the requirement that a plaintiff must establish that the product was unreasonably dangerous as well as defective. The court held instead that all the plaintiff need prove is that the product was in a defective condition and that the defect was a proximate cause of the plaintiff's injuries.⁴³

While the court accepted the proposition that a manufacturer is not an insurer against all injuries suffered while using its products,

³⁹ 335 So. 2d 134 (Ala. 1976).

⁴⁰ *Id.* at 139.

⁴¹ 8 Cal. 3d 121, 501 P.2d 1153, 104 Cal. Rptr. 433 (1972). See also *Butaud v. Suburban Marine & Sporting Goods, Inc.*, 543 P.2d 209 (Alas. 1975); *Berkbile v. Brantly Helicopter Corp.*, 462 Pa. 83, 337 A.2d 893 (1975); *Glass v. Ford Motor Co.*, 123 N.J. Super. 599, 304 A.2d 562 (1973). Cf. *Center Chemical Co. v. Parzini*, 234 Ga. 868, 218 S.E.2d 580 (1975) (interpreting Georgia statute).

⁴² The manufacturer had produced a bread truck whose trays were "defective" since the metal used was exceedingly porous, containing holes, pits, and voids, therefore lacking the tensile strength to withstand the forces exerted upon it. 8 Cal. 3d at 124, 501 P.2d at 1156, 104 Cal. Rptr. at 436.

⁴³ 8 Cal. 3d at 134, 501 P.2d at 1163, 104 Cal. Rptr. at 443. In so doing, the court justified its deviation from the Restatement's standard for liability by stating that to require that the plaintiff prove both "defect" and "unreasonable danger" rang of negligence, an element which adoption of strict liability was intended to eliminate from the plaintiff's cause of action.

it held that the manufacturer should be liable for those injuries caused by provable defects in their products regardless of the "reasonableness" of the manufacturer or the "reasonableness" of the safety of the product. Since the manufacturer's own standards for the product could be utilized to define the limits by which a product was considered non-defective, the fact finder's determination regarding proximate causation provided the only acceptable limit of liability as a social policy determination. In eliminating the unreasonably dangerous requirement, the California court was in essence adopting a per se test of its own. That is, that if the plaintiff establishes that the product was defective—that it fell below the manufacturer's own standards for safety—it was per se unreasonably dangerous, since any product which fell below the manufacturer's own standard must necessarily fall below society's standard as well.

The drafters of the Restatement contemplated that the viewpoint of the ordinary consumer with ordinary knowledge would be employed to determine whether a product's defect rendered it unreasonably dangerous.⁴⁴ This "reasonableness" test for determining liability for product defect, which, as the court in *Cronin* stated, "rings of negligence," was in fact substituted by one court for the "defect" test adopted by the *Cronin* court. In *Chappuis v. Sears Roebuck & Co.*,⁴⁵ the Supreme Court of Louisiana rejected the requirement that the plaintiff prove that a product was both defective and unreasonably dangerous in order for the manufacturer to be held strictly liable. To recover under the Louisiana "consumer viewpoint single factor" test, all the plaintiff need establish is that the product is "unreasonably dangerous in normal use."⁴⁶ That is, there is no need to establish separately that the product did not meet a standard set by the manufacturer and then to estab-

⁴⁴ As the Court in *Cronin* stated:

Dean Prosser, the reporter for the Restatement, suggests that the "unreasonably dangerous" qualification was added to foreclose the possibility that the manufacturer of a product with inherent possibilities for harm (for example, butter, drugs, whiskey, and automobiles) would become "automatically responsible for all the harm that such things do in the world."

8 Cal. 3d at 132, 501 P.2d at 1161, 104 Cal. Rptr. at 441. See note 31 *supra*.

⁴⁵ 358 So. 2d 926 (La. 1978). See also *Seattle First Nat'l Bank v. Tabert*, 86 Wash. 2d 145, 542 P.2d 774 (1975).

⁴⁶ 358 So. 2d at 929.

lish as well that the product failed to meet society's standard by being unreasonably dangerous.

There is, of course, little practical effect in requiring a separate finding of "defect" if the product must be found to have been "unreasonably dangerous" under the articulated tests. The *Chapuis* test, therefore, offers an opportunity to focus upon that feature of the strict liability doctrine which is most familiar and yet most difficult to apply: the reasonableness standard as the basis for tort liability. Thus considered, strict liability for manufacturing defects may be thought of as the logical progeny of *MacPherson v. Buick Motor Co.*⁴⁷ While *MacPherson* eliminated the need to establish privity between plaintiff and defendant in order for the plaintiff to bring suit against a defendant for negligence in manufacturing, liability was not to be imposed until the plaintiff established that the defendant was negligent. The doctrine of strict liability for manufacturing defects eliminated the requirement that the defendant "knew or should have known" of the defect in the product in the exercise of reasonable care, but the defendant's liability is not established until the plaintiff proved the *product* fell below the established standard. This in its various forms required proof of mismanufacture, unreasonable danger, or, most commonly, both.

The doctrines of negligence and strict liability for mismanufactured products both permit civil liability to be assessed against a defendant for "conduct" which causes injury to the plaintiff. The negligence test requires that the plaintiff establish that the defendant failed to exercise reasonable care to prevent or discover a risk; in strict liability the conduct consists of releasing into the stream of commerce mismanufactured products which fall below the standard of care. In a negligence action which involves a product, the focus of attention is upon the defendant's conduct to determine if he has acted unreasonably in failing to control a risk present in the product; in strict liability, the focus is upon the product to determine whether it represented an unreasonable risk of injury at the time the defendant released the product into the stream of commerce. But while liability for mismanufactured products presents rather clear choices, a manufacturer may also be

⁴⁷ 217 N.Y. 382, 111 N.E. 1050 (1916).

liable for design choices apparently involving more complex and difficult to apply standards.

B. Design Choice and "Defect"

A manufacturer may, of course, be liable in negligence for failure to exercise reasonable care in the choice of a design.⁴⁸ The standard of care is that of the reasonably prudent manufacturer at the time of manufacture of the negligently designed product.⁴⁹ As with liability for manufacture, negligence liability in design cases is not supplanted by the doctrine of strict liability, but rather, the plaintiff's available theories of recovery are supplemented.

Allegations of design defect in strict liability can be divided into two general categories. In the first, the inadvertent design error, the manufacturer's choice of a particular design does not accomplish that which the product engineer would have anticipated the design choice to have accomplished if he had given consideration to the issue.⁵⁰ An inadvertent design error is similar in many respects to a manufacturing flaw. Presumably, if the manufacturer

⁴⁸ See, e.g., *Pike v. Frank G. Hough Co.*, 2 Cal. 3d 465, 467 P.2d 229, 85 Cal. Rptr. 629 (1970); *McKinney v. Frodsham*, 57 Wash. 2d 126, 356 P.2d 100 (1960). For an interesting discussion of negligence liability for design under Italian law, see *Manos v. Trans World Airlines, Inc.*, 324 F. Supp. 470, 485-88 (N.D. Ill. 1971).

⁴⁹ It is important to note that the criteria most often applied in evaluating whether the manufacturer has been negligent in designing a product which has been in use for a period of time include: (1) the customary design practices of other manufacturers at the time of manufacture; (2) the open and obvious nature of the danger presented by the design; and (3) the extent of the claimant's use of the product alleged to have caused the injury and the period of time involved in such use by the claimant and others prior to the injury without harmful incident. *Ward v. Hobart Mfg. Co.*, 450 F.2d 1176, 1182 (5th Cir. 1971). If, of course, the manufacturer becomes aware that a design choice (or a non-negligent manufacturing defect) represents a risk of injury, the manufacturer may have an affirmative duty to warn earlier purchasers of that product. See *Comstock v. General Motors Corp.*, 358 Mich. 163, 99 N.W.2d 627 (1959). See also Annot., *Products Liability: Admissibility, Against Manufacturer, of Product Recall Letter*, 84 A.L.R.3d 1220 (1978).

⁵⁰ Professor Henderson has described this standard for evaluating "defect" to include:

[R]isks of harm which originate in the inadvertent failure of the design engineer to appreciate adequately the implications of the various elements of his design, or to employ commonly understood and universally accepted engineering techniques to achieve the ends intended with regard to the product.

Henderson, *Judicial Review of Manufacturers' Conscious Design Choices: The Limits of Adjudication*, 73 COLUM. L. REV. 1531, 1548 (1973).

were aware of the manufacturing flaw, or the inadvertent design error, he would not market the product.⁵¹ Similarly, the standard for determining whether an inadvertent design error causes the product to represent an "unreasonable danger" can be similar to that for a manufacturing flaw, that is, whether the reasonable manufacturer would not have marketed the product had he been aware of the effects of his inadvertent design choice prior to marketing the product.

The imputed knowledge test, then, works equally well in the inadvertent design defect case as in the case of a manufacturing flaw. For example, a propeller, which due to an inadvertent design choice has a tendency to "overspeed" and therefore presents a risk of injury,⁵² is conceptually as defective as if the metal alloy from which the propeller was cast contained some unintended and undiscovered contaminant. Both types of defect are hidden from the manufacturer as well as the consumer, and therefore neither is susceptible to any meaningful warning by the manufacturer to reduce the risk of injury.⁵³

A subcategory of the inadvertent design defect is equally susceptible to a relatively simple analysis. This subcategory involves either a design choice which is not essential to the intended use of the product, or involves a relatively uncomplicated product in which the question of risk can be analyzed relatively easily. The fact finder can conclude whether the product falls below the established standard by consideration of the dangerous nature of the design itself or of a safer design alternative. Thus, the addition to

⁵¹ This is just another way of saying that the "imputed knowledge" test for defining the standard of care for strict liability for product defects would be an effective vehicle for setting the parameters of liability, since both could rely upon a familiar test for establishing liability, that is, what the "reasonable person" would do.

⁵² See *Noel v. United Aircraft Corp.*, 342 F.2d 232 (3d Cir. 1964).

⁵³ While strict liability for failure to warn of risks inherent in the design of a product has been imposed, this "defect" in marketing of the product has usually been the basis for a cause of action only when the manufacturer was aware of the risks inherent in the chosen design. See, e.g., *Ulrich v. Kasco Abrasives Co.*, 532 S.W.2d 197 (Ky. 1976); *Woodhill v. Parke Davis & Co.*, 58 Ill. App. 3d 349, 374 N.E.2d 683 (1978). Compare strict liability for failure to warn with strict liability for non-negligent *misrepresentation* under RESTATEMENT (SECOND) OF TORTS, § 402B (1965), where knowledge of the foreseeability of the risks created by the product is an unnecessary element of the cause of action if the seller has made a misrepresentation of fact. *Crocker v. Winthrop Lab. Div. of Sterling Drug, Inc.*, 514 S.W.2d 429 (Tex. 1974).

an automobile's hubcaps of purely ornamental blades which cause injury to the passenger of a motorcycle which is involved in a collision with the automobile is not the type of design choice which a jury is incapable of finding defective when compared to hubcaps of a safer design.⁵⁴ Nor would the decision not to include crash-worthy safety harnesses or crashworthy seat belt brackets on a light aircraft in the light of evidence that they are feasible and relatively inexpensive constitute the type of design choice that the jury is incapable of analyzing.⁵⁵ In this subcategory also, it can be argued that if the manufacturer were aware of the *risks* of injury involved in the design choice, this choice would not have been made.

The second category of design defects, however, involves the conscious design choice which is directly related to the function of the product. In making this choice the design engineers are aware that there are risks of injury associated with the intended design, but determine that these risks are outweighed by the increased benefits or reduced costs which the engineers or designers believe justify the *conscious* acceptance of those risks in the final product.⁵⁶

It can be argued that liability for manufacturing flaws or inadvertent design choices penalizes an ineffectual attempt by the manufacturer to achieve a desired goal. Such cases are therefore merely steps on the fault continuum, representing a slightly modified standard of proof to establish the breach of a traditionally accepted standard of care. Strict liability for conscious design choices, however, represents a very distinct step much further along that same continuum. Strict liability for manufacturing flaws repre-

⁵⁴ See *Passwaters v. General Motors Corp.*, 454 F.2d 1270 (8th Cir. 1972).

⁵⁵ See *Wilson v. Piper Aircraft Corp.*, 282 Or. 61, 577 P.2d 1322, *reh. denied with opinion*, 282 Or. 411, 579 P.2d 1287 (1978).

⁵⁶ See cases cited in *Cepeda v. Cumberland Eng'r Co.*, 76 N.J. 152, 386 A.2d 816, 827 (1978). Thus, in one of the classic illustrations of this type of design choice calculus, although the allegation was negligence, the manufacturers of an inexpensive microbus were found not liable for designing their vehicle to provide maximum cargo space, passenger space, and maneuverability by placing the driver's seat in close proximity to the front of the vehicle. This design choice considerably reduced the "crash barrier" space between the driver's compartment and the actual front of the vehicle. In the absence of any evidence that the crash-worthiness of the vehicle could have been enhanced consistently with the peculiar purpose of the design, the plaintiff failed to establish a cause of action. *Dreisonstok v. Volkswagenwerk*, 489 F.2d 1066 (4th Cir. 1974).

sents liability for deviation from the manufacturer's own standard. Strict liability for inadvertent design choice also represents liability for deviation from the manufacturer's own standards, for we can assume that had the risks of the inadvertent design choice been made clear to the manufacturer a different design would have been chosen or a warning provided.⁵⁷ Strict liability for conscious design choice, however, represents a social choice substituted for the decision of the design engineers. By hypothesis—that the designers were not negligent—the *conduct* of the engineers in evaluating and weighing the risks and benefits was “reasonable”; yet, the jury is permitted to impose liability if it determines that the *product* of such reasonable conduct was an “unreasonable” design. Thus, while a determination of defect in a manufacturing defect case has been susceptible to relatively easy evaluation by objective comparison of the “defective” product to the manufacturer's intended result, a different conceptual problem has arisen from the creation of strict liability for the conscious design choices of manufacturers.

The problem arises, not from the process through which liability is imposed, but rather from the standards by which a manufacturer's conscious design choice is found to be defective and, therefore, the object for which strict liability is imposed.⁵⁸ It seems paradoxical to hold that a manufacturer's product is “defective” although it performs as the manufacturer intended *and* even though the risks which culminated in injury to the plaintiff were of a category considered by the manufacturer and accepted as risks against which the product was *not* designed to protect. Yet this is an inevitable result of holding that the negligence standard is not an acceptable minimum standard by which to measure the manufacturer's liability for conscious design choices.⁵⁹ In this category of strict liability, imputed knowledge has no impact at all upon a

⁵⁷ See footnote 51 *supra*.

⁵⁸ Professor Henderson has argued that the adjudicative process is not appropriately designed to handle the difficult process of evaluating conscious design choices in order to develop or apply a standard for liability for injuries which are suffered as a result of those “choices.” Henderson, *supra* note 50, at 1531.

⁵⁹ Not surprisingly, associations representing manufacturers or the defense bar have strenuously advocated the negligence standard as the minimum standard of care for liability in conscious design choice cases. *E.g.*, THE DEFENSE RESEARCH INST., INC., PRODUCTS LIABILITY POSITION PAPER 12 (1976); TEX. ASS'N OF DEFENSE COUNSEL, PRODUCTS LIABILITY POSITION PAPER 7 (1978).

manufacturer's liability, for presumably the manufacturer is aware of the risks created by the design choice and yet, although cognizant of those risks, is not negligent in selling, marketing or manufacturing the product in that condition.⁶⁰ Resort to a standard of what the ordinary consumer expects of the product as to safety in intended or foreseeable use has not solved the difficulties of applying a standard for this type of defect.⁶¹

Some of the difficulties encountered in this type of case were discussed by the Oregon Supreme Court in *Wilson v. Piper Aircraft Corp.*⁶² *Wilson* involved the consolidated trial and appeal of two wrongful death actions brought by the personal representatives of two passengers who died as a result of the crash of a small airplane manufactured by the defendant. The four-passenger airplane which was the subject of the litigation was manufactured in 1966. In 1971, shortly after take-off from the Eugene, Oregon airport, it crashed into the mountains right after entering a cloud. The plaintiffs alleged that the crash was caused by engine failure due to carburetor icing⁶³ and also that certain defects regarding the crash-worthiness of the rear passenger compartment caused or contributed to the injuries.⁶⁴ Although the aircraft met the applicable standards approved by the FAA and had been issued a certificate

⁶⁰ While a manufacturer may be liable for failing to warn of risks inherent in a conscious design choice case where the manufacturer would not be liable for the design choice, this aspect of strict liability for products is outside the intended scope of this article. See, e.g., Patterson, *Products Liability: The Manufacturer's Continuing Duty to Improve His Products or Warn of Defects After Sale*, 62 ILL. B.J. 92 (1973).

⁶¹ Thus, the standard of what the ordinary consumer expects as to safety leaves unanswered the question of what factors the fact finder may consider in determining the expectations of this fictitious "ordinary reasonable consumer." See *Bruce v. Martin-Marietta Corp.*, 544 F.2d 442 (10th Cir. 1976), noted, 43 J. AIR L. & COM. 587 (1977).

⁶² 282 Or. 61, 577 P.2d 1322, reh. denied with opinion, 282 Or. 411, 579 P.2d 1287 (1978).

⁶³ 577 P.2d at 1324.

⁶⁴ *Id.* at 1328. Plaintiffs also alleged that the aircraft was not equipped with crashworthy seat belt brackets and shoulder belt harnesses. This type of "defect" would, of course, represent an inadvertent design choice if the plaintiffs were successful in establishing this element of their cause of action, since these features would not significantly affect the over-all engineering of the aircraft, nor would they be unduly expensive. 577 P.2d at 1327. Thus, a design engineer would be expected to choose a more effective available safety harness and seat belt bracket if he were aware of the risks which his inadvertent design choice created. See text accompanying note 55 *supra*.

of airworthiness, the Oregon court, following the trend of other jurisdictions,⁶⁵ held that these standards were minimum standards only.⁶⁶

The Oregon Supreme Court in *Wilson*, however, was faced with the problem of establishing a standard by which the risks created by the product could be measured. In *Phillips v. Kimwood Machinery Co.*,⁶⁷ the court earlier had stated that a product is defective if "a reasonably prudent manufacturer would not have so designed and sold the article in question had he known of the risk involved which injured plaintiff."⁶⁸ This definition of defect, as we have seen, permits the fact finder to evaluate manufacturing

⁶⁵ See, e.g., *Rucker v. Norfolk & W. Ry.*, 64 Ill. App. 3d 770, 381 N.E.2d 715 (1978). But see *Banko v. Continental Motors Corp.*, 373 F.2d 314 (4th Cir. 1966); *In re Paris Air Crash of March 3, 1974*, 399 F. Supp. 732 (C.D. Cal. 1975). It appears that one jurisdiction may have rejected that trend and struck out on its own. In 1977, the Ohio Supreme Court decided *Temple v. Wean United Inc.*, 50 Ohio St. 2d 317, 364 N.E.2d 267 (1977), in which a punch press operator was injured when extrusion material fell off of the press and onto the dual operating buttons causing the 75 ton power punch press to close down on her arm resulting in the eventual amputation of both arms just below the elbow.

The plaintiff sued the manufacturer among others, alleging that the press was defectively designed and unreasonably dangerous because the manufacturers failed to provide a fixed barrier guard which would have prevented the plaintiff from inserting her arms into the danger zone of the press. The lower court granted summary judgment.

In resolving the issue of a conscious design defect, the Ohio court stated that a manufacturer has a duty to use "reasonable care under the circumstances to so design his product as to make it not accident or foolproof, but safe for the use for which it was intended." 50 Ohio St. 2d at 326, 364 N.E.2d at 273. Therefore, the court held that it would look to *statutory regulations* for those objective design standards which could be utilized in evaluating whether the design under consideration was unreasonably dangerous.

The Ohio Industrial Commission Safety Code guidelines approved the two hand tripping device which the plaintiffs contended was the reasonably safe design choice as well as the two hand tripping safety device which the defendant had incorporated into its product. As a result of compliance with the governmentally acceptable method of providing for a safety device, as a matter of law, the defendant was not negligent in making this design choice.

The impact of this decision has persuaded one pair of commentators to announce that "compliance with [governmentally established or recognized standards] is conclusive of the issue of product design reasonableness and entitles the manufacturer to judgment as a matter of law." Strause & Hedden, *Liability for Product Design in Ohio—A First Step Toward Solution*, 11 AKRON L. REV. 663, 676 (1978). See also Wade, *On The Nature of Strict Liability for Products*, 44 Miss. L.J. 825, 837-38 (1973).

⁶⁶ 577 P.2d at 1324-25.

⁶⁷ 269 Or. 485, 525 P.2d 1033 (1974).

⁶⁸ 269 Or. at 494, 525 P.2d at 1037.

flaw and inadvertent design defect cases, in which the imputation of knowledge of the defect to the manufacturer could be followed by a reasonableness test to effectively set the standard for establishing liability for the mismanufactured product.⁶⁹ *Wilson*, however, dealt with a conscious design choice: the manufacturer in *Wilson* did know of the risk involved in selling the product in the condition in which the consumer received it. To apply the *Kimwood* "imputed knowledge" definition would be redundant and effectively require proof of negligence.

The significance of imputing knowledge of the defect to the manufacturer in inadvertent design and manufacturing flaw cases is apparent. If, as in *Cronin*, the manufacturer is to be held absolutely liable for injuries proximately caused when a manufacturing flaw has occurred, then potentially the manufacturer's liability will flow from a breach of its own standard without reference to any societal standard of care. The tacit assumption underlying this approach is that society's standard will always be at least as high as that which the manufacturer has set for itself. Contrast this to the court's opinion in *Kimwood*, where it is suggested how a manufacturer might market a product defective but yet not unreasonably dangerous:

To some it may seem that absolute liability has been imposed upon the manufacturer since it might be argued that no manufacturer could reasonably put into the stream of commerce an article which he realized might result in injury to a user. This is not the case, however. The manner of injury may be so fortuitous and the chances of injury occurring so remote that it is reasonable to sell the product despite the danger. In design cases the utility of the article may be so great, and the change of design necessary to alleviate the danger in question may so impair such utility, that it is reasonable to market the product as it is, even though the possibility of injury exists and was realized at the time of the sale. Again, the cost of the change necessary to alleviate the danger in design may be so great that the article would be priced out of the market and no one would buy it even though it was of high utility. Such an article is not dangerously defective despite its having inflicted injury.⁷⁰

Recognizing that the evidence of defective design as the court

⁶⁹ See text accompanying note 34 *supra*.

⁷⁰ 269 Or. at 495-96, 525 P.2d at 1038.

articulated it in *Kimwood* was similar to the evidence of negligence,⁷¹ the *Wilson* court articulated different standards by which an allegation of conscious design choice defect would be evaluated.

The primary element in an allegation of defect due to conscious design choice under the *Wilson* standard is the requirement that the plaintiffs establish that an alternative to the design selected by the defendant is more than just a technical possibility.⁷² In *Wilson*, the plaintiffs were alleging that the carburetor design chosen by the defendant was defective in one particular: the carburetor was subject to icing which could result in engine failure. Except for the icing characteristic, the carburetor design chosen was a highly successful, dependable choice, similar to that used in eighty to ninety percent of all comparable airplanes.

When a jury is instructed that in order to find liability they must first find that the product contains a "defect," it must be recognized that the existence *vel non* of the term "defect" implies in common parlance that there is a standard from which the manufacturer has deviated. In the absence of an already available standard for the conscious design choice, many of the courts have

⁷¹ As the court stated, "[w]e are . . . committed to the position that members of the public are entitled to compensation for their injuries if they are damaged because of improper product design. Actions for negligence would pose the identical difficulty because the evidence is similar." 577 P.2d at 1326.

⁷² The court went on to state, however, that this would not be a requirement in all product cases. It acknowledged that a product of limited utility representing a severe danger might subject the manufacturer to liability since the "reasonable" manufacturer would not commit such an act. That is, the standard for fault based liability would not require an alternative design before submission. 577 P.2d at 1328 n.5. The reasonable alternative test has been accepted by other courts, however, as a basis by which to measure whether the manufacturer's design choice should subject the manufacturer to liability. See, e.g., *Huddell v. Levin*, 537 F.2d 726, 737 (3d Cir. 1976); *Lolie v. Ohio Brass Co.*, 502 F.2d 741, 744 (7th Cir. 1974). As the court in *Wilson* stated:

One of the factors to be weighed in making this determination is the manufacturer's ability to eliminate the unsafe character of the product without impairing its usefulness or making it too expensive to maintain its utility. In other words, the court is to determine, and to weigh in the balance, whether the proposed alternative design has been shown to be practicable. The trial court should not permit an allegation of design defect to go to the jury unless there is sufficient evidence upon which to make this determination. If liability for alleged design defects is to "stop somewhere short of the freakish and the fantastic," plaintiffs' prima facie case of a defect must show more than the technical possibility of a safer design.

577 P.2d at 1326 (footnote omitted).

adopted a risk-utility balancing test.⁷³ The jury is expected to weigh these factors and make judgments regarding the social desirability of the conscious design choice trade-off.⁷⁴ The *Wilson* court recognized, however, that the alternative design test adopted by them would require an initial determination whether to submit the case to the jury even when the plaintiff did present an alternative to the chosen design.

The factors which may be considered in this pre-jury submission test to determine whether a product is "unreasonably dangerous" due to a conscious design choice have been variously phrased. Perhaps the most widely cited and those accepted by the *Wilson* court are those listed by Dean Wade.⁷⁵ Dean Wade's seven criteria included:

- (1) The usefulness and desirability of the product—its utility to the user and to the public as a whole;
- (2) The safety aspects of the product—the likelihood that it will cause injury, and the probable seriousness of the injury;
- (3) The availability of a substitute product which would meet the same need and not be unsafe;
- (4) The manufacturer's ability to eliminate the unsafe character of the product without impairing its usefulness or making it too expensive to maintain its utility;
- (5) The user's ability to avoid danger by the exercise of care in the use of the product;
- (6) The user's anticipated awareness of the dangers inherent in the product and their avoidability because of general public knowledge or the obvious conditions of the product, or of the existence of suitable warnings or instructions;
- (7) The feasibility on the part of the manufacturer of spreading

⁷³ See, e.g., *Aller v. Rodgers Machinery Mfg. Co.*, 268 N.W.2d 830 (Iowa 1978), in which the court stated:

In order to prove that a product is unreasonably dangerous, the injured plaintiff must prove the product is dangerous and that it was unreasonable for such a danger to exist. Proof of unreasonableness involves a balancing process. On one side of the scale is the utility of the product and on the other is the risk of its use.

268 N.W.2d at 835.

⁷⁴ This is, of course, what the jury is expected to be able to accomplish when the allegation is that the manufacturer was negligent as well. That is, by balancing many of these same factors, the jury is expected to be able to determine whether a manufacturer has acted "reasonably."

⁷⁵ Wade, *supra* note 65.

the loss by setting the price of the product or carrying liability insurance.⁷⁶

Since the plaintiffs in *Wilson* could not establish that the design

⁷⁶ *Id.* at 837-38. Professor Fischer has organized the factors to be weighed in the following outline:

I. Risk Spreading

A. From the point of view of the consumer

1. Ability of consumer to bear loss
2. Feasibility, and effectiveness of self-protective measures.
 - a. Knowledge of risk
 - b. Ability to control danger
 - c. Feasibility of deciding against use of product.

B. From the point of view of the manufacturer

1. Knowledge of risk
2. Accuracy of prediction of losses
3. Size of losses
4. Availability of insurance
5. Ability of manufacturer to self insure
6. Effect of increased prices on industry.
7. Public necessity for the product
8. Deterrent effect on the development of new products.

II. Safety Incentive

A. Likelihood of future product improvements.

B. Existence of additional precautions that can presently be taken.

C. Availability of safer substitutes.

Fischer, *Products Liability—The Meaning of Defect*, 39 MO.L. REV. 339, 359 (1974).

Stated very generally, the conclusion is that the manufacturer of the product is best capable of making a cost-benefit analysis, and therefore, when the manufacturer's "analysis" (whether performed or not) is not accepted, liability should follow. In arguing for a system of strict liability, Calabresi & Hirschhoff seem to assume this to be the case even though the manufacturer cannot make the product any safer for users who are in a better position than the manufacturer to evaluate the risks created by the product. Since the manufacturer can make the decision to market the product and risk current damages or invest in further research, they contend, manufacturers should bear the burden of financial liability. Calabresi & Hirschhoff, *Toward a Test for Strict Liability in Torts*, 81 YALE L.J. 1055, 1071 (1972). The contrast of this analysis to traditional fault analysis is apparent, for strict liability is imposed even though the manufacturer was unaware that the product presented any risks of injury at the time of sale. The decision to market the product at the time, as opposed to continued research which, despite its extent, might still result in a manufacturer being found liable, is the act for which strict liability will be imposed. *Phipps v. General Motors Corp.*, 278 Md. 337, 363 A.2d 955 (1976); *Dunham v. Vaughn & Bushnell Mfg. Co.*, 42 Ill. 2d 339, 247 N.E.2d 401 (1969). This would be true even though the manufacturer performed more safety research than the "reasonable" manufacturer if his product were "unsafe." *Compare Barker v. Lull Eng'r Co.*, 20 Cal. 3d 413, 434, 573 P.2d 443, 457, 143 Cal. Rptr. 225, 239 (1978), where the California Supreme Court held that reasonable precautions taken by a manufacturer in an attempt to design a safe product will not preclude imposition of strict liability if the product's design is unsafe to consumers, users, or bystanders.

alternatives to carburetion available to the manufacturer would have reduced the risk of icing without increasing other risks of injury," the plaintiffs failed to establish a *prima facie* case that the choice of carburetion rendered the plane defective.⁷⁶

In the application of strict liability to the typical conscious design choice case, no manufacturing defect exists, and the design choice at issue is not inadvertent. The primary problem then, is establishing a satisfactory standard or set of criteria below which the conscious design choice can be found to have fallen. This standard for strict liability should be capable of being applied by a jury and not redundant of the negligence standard. If the foreseeable risks are such that a reasonable manufacturer would not have marketed the product in its present state, then the manufacturer may be found to have been negligent.

However, strict liability has been imposed even in those situations where the manufacturer was aware of all risks and was not negligent in marketing the product. Defining the standard by which the manufacturer would be held liable in strict liability for

⁷⁶ The seven Wade criteria were adopted by the Oregon Supreme Court in *Kimwood* as the appropriate standard by which the trial court should determine whether the issue of the manufacturer's liability for injuries should be submitted to the jury, 269 Or. 457, 501, 525 P.2d 1033, 1040 (1974). Justice Linde, concurring in *Wilson*, suggested that many of these criteria were similar to those which were considered by the FAA prior to granting a certificate of airworthiness. He therefore concluded that when a product is subject not only to prescribed performance standards but to government supervised testing and specific approval or disapproval on safety grounds, no further balance whether a product design is "unreasonably dangerous" for its intended use need be struck by a court or jury unless (1) the standards of safety or utility are less demanding than those set for civil liability for product design, or (2) the regulatory agency did not address the alleged defective element of the design or fell short of its assigned task. 577 P.2d at 1334-35. See also note 65 *supra*.

Thus, while such acts as the Consumer Product Safety Act, 15 U.S.C. §§ 2051-2081 (1976), expressly provide that a manufacturer's compliance with the provisions of the Act will not relieve the manufacturer from civil liability at common law (or under state statutory law) for product safety, a court having adopted strict liability *could* also adopt any pertinent Consumer Product Safety Commission regulation as the standard for "defect" in design. See 15 U.S.C. § 2075 (1976). See generally Keeton, *Statutes, Gaps, and Values in Tort Law*, 44 J. AIR L. & COM. 1 (1978).

⁷⁷ In *Wilson*, although the plaintiffs introduced evidence of an available fuel injection system, they failed to establish "what effect the substitution of a fuel injected engine in this airplane design would have had upon the airplane's cost, economy of operation, maintenance requirements, overall performance, or safety in respects other than susceptibility to icing." 577 P.2d at 1327. The plaintiffs also alleged other defects in design. See also note 64 *supra*.

a conscious design choice had been, as noted in *Wilson*, an integrated concept; that is, a conscious design choice did not make a product defective unless the product was unreasonably dangerous as a result of the conscious design choice.⁷⁹ The gravamen of strict

⁷⁹ The determination of whether the product is "unreasonably dangerous," once the threshold determination to submit the issue to the jury is made, is one which has presented ample room for judicial creation. That the issue so carefully corresponds to the same balancing factors present in the determination of negligence, however, reflects the fault based foundations of the theory of strict liability. Thus, in *Bowman v. General Motors Corp.*, 427 F. Supp. 234 (E.D. Pa. 1977), the jury was instructed that under Pennsylvania law unreasonably dangerous was explained in an automobile design case as follows:

In determining whether a product is unreasonably dangerous and therefore defective because of its design, there are a number of factors which you should consider. As you will see, when I have listed all these factors, you may have to balance them against each other, sort of like in a formula. In other words, some may cut one way and some the other. No one factor by itself will be all-important.

First, you should consider the *likelihood* that the product as thus designed will result in injury to a user. Applied to the present "crash-worthiness" case, you should consider the likelihood that the '66 Toronado, as it was designed, would, in an accident situation, cause (or fail to protect an occupant from) injury. In this regard, you must in turn also consider the likelihood that a '66 Toronado would be struck in the rear on a highway: (1) at a closure speed such as you in fact find to have been present in this case; and (2) in the manner in which you find the collision to have occurred in this case. If you find that an accident of this kind was not unlikely to occur, that would be a factor to consider in the balancing formula on unreasonableness of danger. If you so find; you should also consider the likelihood that a Toronado designed in the manner of the '66 model would, in circumstances such as you find occurred, experience a fire resulting from ignition of the fuel system's gasoline vapors which would invade the passenger compartment. If you find such a likelihood of injury, you should consider that factor in deciding whether the automobile here was unreasonably dangerous. The *second* factor you should consider in the unreasonably dangerous formula is the *seriousness* of potential injury in such circumstances.

Third, you should consider the *ability* of the manufacturer, GM, to eliminate any unsafe characteristics which you find in the car, without impairing the usefulness of the car or significantly increasing its cost.

Fourth, you should consider whether the Toronado was dangerous to an extent *beyond that which would be contemplated or expected by the ordinary user*, considering the ordinary knowledge common to the community as to the automobile's characteristics. In this regard, you should consider the question of warnings, for I instruct you that a product can be rendered defective by reason of failure to give warnings as to risks or dangers in the product. As I have previously stated, the degree of warning depends upon the degree of danger since a greater degree of danger requires a greater degree

of warning. However, you should also consider the ability of the manufacturer to notify or warn the user of the danger in a given situation, and the degree to which warning was meaningful.

In applying those factors to the formula you may find that some cut one way—toward unreasonable danger—and some the other—away from that conclusion. It is for you, the jury, to evaluate them in light of the facts as you find them in the case, and to determine where the correct balance lies. You may of course find there to be other factors which appear from the evidence to shed light on whether the Toronado's design was defective, and if so you may consider them.

To recapitulate: I have told you that Mr. Bowman's second claim in this case—wholly distinct from his claim of negligence—is based on the doctrine of Manufacturer's Liability for Defective Products. I have defined 'defect' in terms of 'unreasonableness of the danger,' because I believe that to have assigned you the task of determining whether there was a 'defect' without such guidance would have been too difficult. However, I believe that it may also be helpful to give you a general definition of defect which you may also apply in your deliberation. In terms pertinent here, Webster defines 'defect' to mean 'an absence of something necessary to adequacy of function.' Applied to this case, the question would be: Did the design of the Toronado lack something necessary for adequate performance of its function—namely, to provide a reasonably safe compartment for transportation of occupants of motor vehicles; that is, one designed not to be crashproof or to provide absolute safety against all risks of the road, but to provide reasonable safety against the foreseeable risks of the road.

427 F. Supp. at 243-44 (footnote omitted). The similarity of this test to the seven elements which Dean Wade listed is more than coincidence for the judge relied upon those criteria in drafting the instruction. *Id.* at 244. The court distinguished the test for liability under its instruction from that for liability under negligence by stating that a manufacturer might make a "reasonable" decision to adopt a given design which has a slightly lower price, thus providing consumers with the option to purchase the cheaper but less safe product. Nevertheless, in a strict liability lawsuit, the court stated, the injured party should be permitted to have the issue of liability submitted to the jury under the risk balancing test just articulated. 427 F. Supp. at 245. See text accompanying note 99 *infra*.

The risk/utility test has been followed by other courts as well. See, e.g., *Cepeda v. Cumberland Eng'r Co.*, 76 N.J. 152, 386 A.2d 816 (1978) (and cases cited therein).

Although much has been made of the analysis necessary to determine whether a conscious design defect is unreasonably dangerous, at least one court has failed to see what all of the confusion is about:

As we see it, divorced from the glut of erudition erupting from the scholars, a theory of strict liability for manufacturers of mechanical products ought to be rather simple. The product either is or is not unreasonably dangerous to a person who should be expected to use or be exposed to it. If it is, it can make no difference whether it is dangerous by design or by accident. As aptly observed in 62 Ky. L.J. 866, 875, "the important factor is how safe or dangerous the product is when used as it was intended to be used" [or should reasonably have been anticipated to be used]. If the danger is unreasonable because it is not obvious and may not be appre-

liability for conscious design choice was the requirement that the plaintiff prove that the choice rendered the entire product "unreasonably dangerous."⁸⁰ Then came *Barker v. Lull Engineering Co.*⁸¹

While *Cronin* was a manufacturing defect case in which the court abandoned the requirement that the plaintiff prove that the product contained a defect that caused injury and that the defect made the product unreasonably dangerous,⁸² *Barker* was a case in

hended by such a person, then it may be obviated by an adequate warning, so provided or affixed that in the ordinary course of events it will reach and should be understood by that person. Whether such a warning is so provided is nothing more than one of the factors determining whether the product is unreasonably dangerous. Cf. Restatement, Torts 2d § 402A, Comment j.

Though strict liability does not depend upon negligence, a degree of kinship between the two does inhere in the term "unreasonably dangerous." Both utilize the concept of reasonable foreseeability. The difference is that negligence depends on what a prudent manufacturer, engaged in a business similar to that of the defendant, by the exercise of ordinary care actually should have discovered and foreseen, whereas strict liability depends on what he would have anticipated had he been (but regardless of whether he actually was or should have been) aware of the condition of and the potentialities inhering in the product when he put it on the market.

Where the one is actual, the other is postulated.

Ulrich v. Kasco Abrasives Co., 532 S.W.2d 197, 200 (Ky. 1976).

⁸⁰ Thus, the Supreme Court of Washington simplified the issue of determining the limits of liability for a conscious design choice by following those courts which have accepted the proposition that a product is defective if it is unreasonably dangerous. *Seattle First Nat'l Bank v. Tabert*, 86 Wash. 2d 145, 542 P.2d 774 (1975). See also *Borel v. Fibreboard Paper Prod. Corp.*, 493 F.2d 1076, 1087 (5th Cir. 1973). Cf. *Chappuis v. Sears, Roebuck & Co., Inc.*, 358 So. 2d 926 (La. 1978) (discussed in text accompanying note 45 *supra*). This test of unreasonable danger is whether the product is less safe than that reasonably contemplated by the ordinary consumer taking into account the relative cost of the product, the gravity of the potential harm, and the cost or feasibility of eliminating or minimizing the risk created by the product. See also *Dickerson, Product Liability: How Good Does a Product Have to Be?*, 42 IND. L.J. 301 (1967); *Keeton, Manufacturer's Liability: The Meaning of "Defect" in the Manufacture and Design of Products*, 20 SYRACUSE L. REV. 559 (1969); *Kessler, Products Liability*, 76 YALE L.J. 887 (1967); *Rheingold, What are the Consumer's "Reasonable Expectations"?* 22 BUS. LAW. 589 (1967).

⁸¹ 20 Cal. 3d 413, 573 P.2d 443, 143 Cal. Rptr. 225 (1978).

⁸² *Cronin v. J.B.E. Olson Corp.*, 8 Cal. 3d 121, 501 P.2d 1153, 104 Cal. Rptr. 433 (1972). The court in *Cronin*, however, did not limit the parameters of its decision to the manufacturing defect cases. "We can see no difficulty in applying the *Greenman* formulation to the full range of products liability situations including those involving design defect. A defect may emerge from the mind of a designer as well as from the hand of a workman." 8 Cal. 3d at 134-35, 501 P.2d at 1162, 104 Cal. Rptr. at 442. At least one court has speculated that

which the plaintiff alleged that the product was defective due to conscious design choices made by the manufacturer. In charging the jury, the trial judge instructed them that the conscious design choices made by the manufacturer might be considered defects if they rendered the product unreasonably dangerous.

In reversing the judgment for the defendants, the California Supreme Court rejected the requirement that the manufacturer's conscious design choice render the product unreasonably dangerous before the manufacturer might be found strictly liable for conscious design choice. The court did not dispute the defendant's assertion that, unlike *Cronin*, in which the plaintiff had a dual problem of proof, that is, first proving defect, and second that the defect rendered the product unreasonably dangerous, the conscious design choice case presents an integrated issue of establishing that the conscious design choice was a "defect" *since* it made the product unreasonably dangerous.⁸³ The court nonetheless refused to accept as the standard for defining defect in a conscious design choice case the requirement that the product be unreasonably dangerous. In its stead, the court imposed a disjunctive test for determining whether a product was defective due to a conscious design choice.⁸⁴

Under the *Barker* test, the product may be found defective if the product fails to perform as safely as an ordinary consumer would expect when used in an intended or reasonably foreseeable manner *or* if the plaintiff proves that the defendant's product proximately caused injury and the defendant fails to prove in light of all the relevant factors that the benefits of the challenged design outweighed the risk of danger inherent in the design.⁸⁵

The first alternative of this two prong test "rings of" the unreasonably dangerous requirement adopted by other courts, and

the *Cronin* court misconstrued the nature of the defect, intending to imply that the defect described therein was a "design" defect. Thus, the quoted language would have been applicable to the case being decided and not intended to have expanded the parameters of the court's decision. *See* *Seattle First Nat'l Bank v. Tabert*, 86 Wash. 2d 145, 542 P.2d 774, 777-78 (1978).

⁸³ 20 Cal. 3d at 424, 573 P.2d at 450, 143 Cal. Rptr. at 232.

⁸⁴ *Barker* represents an attempt by the California Supreme Court to fashion a workable balancing test to overcome the many criticisms of the *Cronin* rule and the ambiguities created therefrom.

⁸⁵ 20 Cal. 3d at 432, 573 P.2d at 455-56, 143 Cal. Rptr. at 237-39.

thus reintroduces "reasonableness"; the second alternative also rings of the traditional negligence standard adopted by such decisions as *Wilson*, but with an important difference. While the California court states that the jury will focus their analysis on the product and not the adequacy of the manufacturer's conduct, this seems a difficult if not impossible proposition to maintain in light of the complexities of the modern production methods which the court felt compelled it to adopt such a bifurcated standard.⁶⁶

Equally importantly, the court altered the focus and burden of proof under this second alternative for proving defect due to conscious design choice. Under the second alternative, the plaintiff needs only to make a prima facie showing that the injury was proximately caused by the product's design for the burden of proof to shift to the manufacturer.⁶⁷ The manufacturer then must prove that the product was not defective as a result of the conscious design choice made by the manufacturer. This burden of proof can only be met by the manufacturer according to listed elements on a risk-benefit theory. Among those factors which a jury may consider in determining whether the risk of the conscious design choice outweighs its benefits are the gravity of the danger posed by the challenged design, the likelihood that such danger would occur, the mechanical feasibility of a safer alternative design,

⁶⁶ This test, moreover, explicitly focuses the trier of fact's attention on the adequacy of the product itself, rather than on the manufacturer's conduct, and places the burden on the manufacturer, rather than the plaintiff, to establish that because of the complexity of, and trade-offs implicit in, the design process, an injury-producing product should nevertheless not be found defective.

20 Cal. 3d at 432, 573 P.2d at 456, 143 Cal. Rptr. at 238.

⁶⁷ 20 Cal. 3d at 431, 573 P.2d at 455, 143 Cal. Rptr. at 237, followed in *Aetna Cas. & Sur. Co. v. Jeppesen & Co.*, 463 F. Supp. 94 (D. Nev. 1978). In *Jeppesen* the insurer for an airline had settled wrongful death claims and sued as the subrogee of the airline against the defendant "manufacturer" of the landing charts used by the pilot. The defendant employed FAA form No. 511 information to compile the data from which the charts were drafted in both a profile and a plan view. In drafting landing chart L.V. No. 3, the defendant employed a five to one scale between the profile and plan view whereas the majority of the 67 charts provided in the aircraft's manual of landing charts had a profile to plan view scale of about one to one. The question of the pilot's negligence was res judicata, having been litigated earlier. The federal district court judge sitting in this diversity action predicted that the Supreme Court of Nevada would apply *Barker* to shift the burden of proof from the plaintiff to the defendant when the plaintiff established that the product was a proximate cause of the accident.

the financial cost of an improved design, and the adverse consequences to the product and to the consumer that would result from an alternative design.⁸⁸ Thus, unlike the *Wilson* test, the *Barker* test would permit the jury to consider an alternative design in determining whether the design choice was a defect, but a reasonable alternative is not the *sine qua non* for such a finding that it apparently is under the *Wilson* test.

It is important to note that unlike the negligence standard, these criteria would be applied by a jury through hindsight, and not by applying a prospective standard from the point of manufacture,⁸⁹ although presumably the jury would be expected to make the risk-benefit analysis by weighing the alternatives available to the manufacturer at the time of manufacture.⁹⁰ This places on the manufacturer the obligation to establish that, "because of the complexity of, and trade-offs implicit in, the design process"⁹¹ at the time of manufacture, an injury-producing design choice should not be considered a "defect." Thus, in addition to altering the traditional allocation of the burden of proof, the court has attempted to draw a distinction between application of a balancing test to determine whether the manufacturer was negligent in adopting a particular conscious design choice, and application of a balancing test to determine whether a product was defective. If

⁸⁸ 20 Cal. 3d at 431, 573 P.2d at 455, 143 Cal. Rptr. at 237. Compare these factors with those factors which the jury may consider in determining whether a product is "unreasonably dangerous." See text accompanying note 31 *supra*. Interestingly, the California court cites the disjunctive test employed by Texas in support of its decision to approve a jury instruction for a disjunctive test of liability. The Texas court abandoned that disjunctive test and, in fact, went so far as to prohibit instructing the jury of any definition of "unreasonably dangerous" or of instructing the jury of criteria to consider in a conscious design defect case. *Turner v. General Motors Corp.*, 22 TEX. SUP. CT. J. 272 (No. B-7747 March 24, 1979). See note 35 *supra*.

⁸⁹ 20 Cal. 3d at 429, 573 P.2d at 454, 143 Cal. Rptr. at 236. *But see* *Horn v. General Motors Corp.*, 17 Cal. 3d 359, 551 P.2d 398, 131 Cal. Rptr. 78 (1976).

⁹⁰ *Cunningham v. MacNeal Memorial Hosp.*, 47 Ill. 2d 443, 266 N.E.2d 897 (1970). See O'Donnell, *Design Litigation and the State of the Art: Terminology, Practice and Reform*, 11 AKRON L. REV. 627 (1978) in which the author points out that there was expert testimony in *Horn* that under the technology current at the time of manufacture of the product, the product defect could have been eliminated. The author also points out that plaintiffs argued to the jury that an alternative design could have been implemented at an insignificant additional cost. The author further notes the questionable procedural basis upon which *Cunningham* might have been decided. 11 AKRON L. REV. at 639-42.

⁹¹ 20 Cal. 3d at 432, 573 P.2d at 456, 143 Cal. Rptr. at 237.

the manufacturer took reasonable precautions in an attempt to design a safe product, or otherwise acted as a reasonable manufacturer would under the circumstances, using reasonable foresight, the manufacturer will be absolved of liability for negligence. However, if with the benefit of hindsight, the trier of fact concludes that the product was defective by application of the foregoing balancing test, because the manufacturer cannot bear the burden of proving otherwise, the manufacturer may be held strictly liable for a product defect.⁹²

How far the *Barker* court actually has departed from the traditional "reasonableness" standard is difficult to determine. While its action in shifting the burden of justifying a design choice to the manufacturer may have important practical consequences, it does not alter the theoretical basis of liability. And although the *Barker* court eschews the term "unreasonably dangerous," it adopts essentially the same risk-utility balancing method used by the *Wilson* court and others to define "unreasonable danger." It is suggested here that *Barker* in fact retains the standard of "unreasonable danger," albeit without so naming it.

On a more fundamental level, however, the *Barker* court may be correct in refusing to label its standard one of "reasonableness." When strict liability is imposed for a conscious design choice, the manufacturer is assessed a loss which stems from conduct that cannot be called "unreasonable," even after the imputed knowledge device developed in the manufacturing flaw cases has been applied. The *Barker* decision thus illustrates sharply a conflict which the advocates for departure from the negligence standard and the adoption in its place of a standard of strict liability have never adequately resolved: whether the primary rationale of strict lia-

⁹² Rejecting the suggestion of the California Trial Lawyers Association, in their amicus brief, that weighing the benefits of the design against the risks of danger inherent in the design is the equivalent of determining whether the manufacturer was negligent, the court stated:

Thus, the fact that the manufacturer took reasonable precautions in an attempt to design a safe product or otherwise acted as a reasonably prudent manufacturer would have under the circumstances, while perhaps absolving the manufacturer of liability under a negligence theory, will not preclude the imposition of liability under strict liability principles if, upon hindsight, the trier of fact concludes that the product's design is unsafe to consumers, users, or bystanders.

20 Cal. 3d at 434, 573 P.2d at 457, 143 Cal. Rptr. at 239.

bility is merely to simplify proof under a fault-based standard of liability,⁹³ or represents the abandonment of "fault" in favor of some form of distributive justice. Many courts have said that the decision to adopt strict liability was made so that manufacturers would be liable for injuries associated with products because they are best able to distribute those losses.⁹⁴

IV. STRICT LIABILITY AND THE CONCEPTUAL MODEL FOR FAULT

While the need to distribute the losses experienced by consumers as a result of the injuries caused by the use of products lies at the base of the system of strict liability, secondary loss distribution aspects should remain secondary goals of a system of strict liability just as they do one of fault based liability. Primary loss reduction, that is, reducing the number of injuries caused by products, should remain the foremost goal of any system of loss shifting based upon an artificially created standard. And while the court in *Barker* has strayed far from the negligence standard, it has, as have the courts which preceded it, retained a reasonableness standard to which a product's design must be compared before liability can be imposed.

While the imposition of this standard of liability can be expected to effect some economic hardship upon manufacturers of products whose designs are allegedly responsible for injuries, much of the economic hardship is an intended feature of primary loss reduc-

⁹³ See, e.g., *Phipps v. General Motors Corp.*, 278 Md. 337, 363 A.2d 955 (1976); *Kirkland v. General Motors Corp.*, 521 P.2d 1353 (Okla. 1974).

⁹⁴ This loss distribution rationale was stated in the concurring opinion of Justice Traynor in *Escola v. Coca Cola Bottling Co.*, 24 Cal. 2d 453, 150 P.2d 436 (1944).

The cost of an injury and the loss of time or health may be an overwhelming misfortune to the person injured, and a needless one, for the risk of injury can be insured by the manufacturer and distributed among the public as a cost of doing business.

24 Cal. 2d at 461-62, 150 P.2d at 441. This sentiment was repeated by Justice Traynor in the majority opinion in *Greenman v. Yuba Power Products Inc.*, 59 Cal. 2d 57, 63, 377 P.2d 897, 901, 27 Cal. Rptr. 697, 701 (1963): "The purpose of such liability is to insure that the costs of injuries resulting from defective products are borne by the manufacturers that put such products on the market rather than by the injured persons who are powerless to protect themselves." See also *Wilson v. Fare Well Corp.*, 140 N.J. Super. 476, 356 A.2d 458 (1976) (and cases cited therein), in which the court relies in part upon the availability of insurance to the corporation to justify holding a successor corporation liable for injuries caused by products manufactured by its predecessor.

tion.⁹⁵ This system of liability shifting should be distinguished from no-fault proposals which advocate departure from the primary loss reduction concepts of "fault" based liability in favor of efficient, albeit totally *non-fault* vehicles for injury compensation. That is, under strict liability the cost of compensating for injuries caused by an injury-producing design should be borne by the manufacturer who is responsible for that product.⁹⁶ In theory, therefore, he has an economic incentive to design a product which will not contain a design "defect." Deterrence remains a goal of strict liability. And although the standard of care is not that of a reasonable manufacturer, the design will be measured by its "reasonableness" considering all other factors.

As stated earlier, negligence as a standard of liability has a dual purpose. The first purpose is reducing primary costs through deterrence. The second purpose is reducing the secondary costs of accidents by providing a means whereby the disabling effects of the costs of compensating for those injuries may be reduced or distributed. Thus, while the twin goals of fault based liability are not always in conflict, as in a situation where injury producing conduct can be deterred and efficient secondary loss distribution achieved through the same standard of liability, a conflict develops when deterrence is achieved only at the cost of poor secondary loss distribution, or where a system of preferred secondary loss distribution is adopted at the expense of increased primary accident costs.

Some commentators have suggested that a system of strict liability for product defects never presents such a conflict, since the

⁹⁵ To the extent that liability for the cost of compensating for injuries caused by products which fall below the "standard" deters manufacturers from producing such products and consequently reduces the number of injuries suffered, it is *the* primary function.

⁹⁶ Stressing that primary cost reduction cannot be effected by imposition of liability upon parties who are not "deterred" from producing or marketing defective products, the Alabama court in *Atkins v. American Motors Corp.*, 335 So.2d 134 (Ala. 1976), held that a retailer who purchased a defective product from a reputable manufacturer would not be financially responsible for injuries caused by defects in the product under the Alabama form of defective product liability. 335 So.2d at 139. Of course, implied indemnity would accomplish the same result, with the potential added benefit of insuring that retailers would be available as parties defendant to insure that an injured party would have greater recourse to available compensation. See Walkowiak, *supra* note 22, at 518. The increased costs of administration of such a remedy, however, are critical drawbacks of such a procedure.

twin goals of the fault-based liability system are not frustrated and the two goals are constantly in harmony. That is, the deterrence aspect of ensuring that safer products are manufactured is promoted by assessing liability against the manufacturers of these products who are also in the best position to reduce the secondary costs by spreading the costs of compensation for these injuries. It has been assumed that the costs of compensating for injuries caused by products in a strict liability system effect an increase in the safety of the manufactured products to a level society finds more acceptable, regardless of the standard by which the product is measured, and that the only remaining question is whether the secondary costs of compensating for the injuries are sufficiently reduced.

It should be remembered that whether the system adopted is a system of negligence or strict liability, there will be a level of subsidization of every enterprise to the extent that some injuries which are a direct product of that enterprise are not compensated by the participants in the enterprise. The amount of that subsidy varies with the social cost of the injuries which are caused by the enterprise and which remain uncompensated. If the product manufacturer is in the best position to reduce primary costs and can also efficiently distribute the costs of compensating for product caused injuries over a large number of products (or if the liability insurance system is an effective vehicle for spreading those losses temporally and between manufacturers), then both the specific deterrence⁹⁷ aspect and the secondary loss distribution aspect are satisfied.

Fault-based liability is thought to reduce primary accident costs in two ways. First, since every party may be held liable for injuries caused by conduct which falls below a minimum standard of care, each party is deterred from continuing in that fashion. Their incentive to discontinue such conduct is financial, since each party will attempt to reduce their costs by reducing their expenditures for the costs of compensation of injuries which they are assessed. Since liability is conditioned upon fault the potential liability costs are weighed against the potential economic value of continuing

⁹⁷ Primary loss reduction can also be thought of as specific deterrence since the manufacturer is theoretically "deterred" from manufacturing defective products through imposition of liability.

the conduct. In order to be deterred, the actors must be aware of the standard to which they are being held and be capable of meeting that standard or be prepared to compensate for injuries caused by breach of the standard.⁹⁸ To the extent that the conduct causes injuries for which there is no compensation, we can argue that society is not prepared to make the decision to deter that conduct because the benefits provided by that conduct to society exceed the costs which it imposes upon society in terms of risk of uncompensated injury. Second, to the extent that these costs are not reduced by deterring participating parties from conducting themselves in a particular fashion, the costs of injuries shall be borne by the participating parties. The cost of the activity in which the actor held liable is engaged is increased by the cost of compensating for the injuries caused by the "fault" based conduct of that party. This is specific deterrence.

If specific deterrence is to function to reduce primary accident costs for injuries caused by products, an effective system of allocating the costs of those risks must be fashioned. If it is, then the risk-creating product will bear the costs of compensating for the injuries created by it, and its price consequently will be higher at any given level of production. This higher price will represent the cost of manufacture plus the surcharge added to the product's price for the cost of compensating for the injuries which have been caused by that product. The attractiveness of this product to the consumer should decrease as its price is compared to the lower costs of alternative products which have lower risks and consequently lower surcharges for the costs of compensating for the injuries produced by those products. As the attractiveness to the consumer of the risk-creating product decreases, the volume of production should also decrease and the potential economies of

⁹⁸ There is evidence that the small businessman is not very well informed regarding standards by which his products will be measured. The conclusion which has been drawn from this evidence is that the small manufacturer's failure to be deterred from designing a defective product is attributed to the misconception that he will be absolutely liable for injuries caused by the product. It is closely followed by an indictment of the trade associations and insurance industry for failure to convey this information. *Product Liability Insurance: Hearings Before the Subcomm. on Capital, Investment and Business Opportunities of the House Comm. on Small Business*, 95th Cong., 1st Sess. Part 3 at 240 (1977) (statement of Anita Johnson) [hereinafter cited as *Hearings*].

higher volume will be eliminated, so that the manufacturing cost of the product will increase with lower volume.

If, however, as some suggest, in a system of strict liability insurance has the effect of distributing the costs of compensating for injuries caused by products to the producers of products which do not represent the same high risk of injury, then the manufacturers of these lower risk products will be forced to bear some of the expense of paying for the cost of compensating for risks and consequently will be forced to raise the prices of their lower risk products.⁹⁹ This would especially be true for a test of liability to be applied retrospectively such as that employed in the second prong of the disjunctive test adopted by *Barker* in which actuarial credibility is hampered by the lack of the benefit of hindsight. Consumers will not be deterred from purchasing the products which represent a higher risk since those products' prices will not fully reflect the risks of injury which they present.¹⁰⁰ Some of the costs which that risk of injury creates will be borne by products which do not represent as serious a risk of injury but which nevertheless will bear a share of the cost of compensation for injuries and a share of the costs of the administrative structure for determining when the loss should be shifted. Hazardous products will lose their unattractiveness to consumers since there will be no, or at least a reduced, price differential. Although the costs of compensation will be spread over a broader class of products, there will also be the higher expectation on the part of the consumer that the risk of injury for use of a hazardous product will be borne by the manufacturers of products. Consequently consumers will not be deterred from purchasing products because of the fear that the financial

⁹⁹ At present the costs of liability insurance represent less than one percent of our gross national product. When this cost is measured against the fact that this payment transfers less than 20% of the premium dollar to the individuals who do receive any compensation whatsoever, the inequity of the present system of loss distribution for product covered injury seems manifest. U.S. DEPT. OF COM., INTERAGENCY TASK FORCE ON PRODUCT LIABILITY, *PRODUCT LIABILITY: FINAL REPORT OF THE INSURANCE STUDY 2-1* (1977) [hereinafter cited as *INSURANCE STUDY*].

¹⁰⁰ The impact of "panic pricing" in liability insurance rating, of course, has the effect of overpricing all goods subject to surcharge representing the costs of liability insurance premiums. Cf. *Hearings, supra* note 98, at 870, 881-82 (statement of Lester Rawls). The point is, however, that the higher risk product will not bear its proportionate share of liability.

impact of injuries caused by products will be borne by them.¹⁰¹ In a system of strict liability in which costs are not borne by risk creating products, the consumer's financial incentive to seek a less hazardous alternative will be reduced. The demand for the risk-creating product will increase at any given price if pricing factors have an impact in the market, with a consequent increase in primary accident costs resulting from increased use of higher risk-creating products.¹⁰² As primary accident costs increase, so will the costs of insuring against those losses by even low-risk-creating products.¹⁰³ Thus, the impact of a preferred secondary loss distribution vehicle may be the creation of increased primary accident costs.

It is good public policy to shift losses to better loss distributors, provided that other equally valid public policy considerations have also been considered. There is an anomaly, however, in considering the public policy inherent in effective loss distribution in the determination of whether a manufacturer should be liable for a

¹⁰¹ When the consumer expects to be compensated for injuries suffered while using a product regardless of proof of "defect" or "fault," we are, of course, imposing a system of absolute liability. Thus, it has been argued that such a system eliminates the disincentive to avoid risk taking with a consequent shift in loss assumption. E.g., greater automobile safety in manufacture has caused greater risk taking by drivers resulting in an increased incidence of pedestrian injuries. See D. NORTH & R. MILLER, *THE ECONOMICS OF PUBLIC ISSUES* 33 (3d ed. 1976).

Justification for the imposition of liability in these cases has been found in the assertion that such injuries are foreseeable (see, e.g., *Larson v. General Motors Corp.*, 391 F.2d 495 (8th Cir. 1968); *Huff v. White Motor Corp.*, 565 F.2d 104 (7th Cir. 1977)), and that the manufacturer is best able to spread the costs of compensating for injuries caused by products. See CALABRESI, *THE COSTS OF ACCIDENTS* 39-67 (1970).

¹⁰² Although the conclusions reached are not the same, this form of analysis of spreading the cost of compensation was presented in Sachs, *Negligence or Strict Product Liability: Is There Really a Difference in Law or Economics?*, 8 GA.J. INT'L & COMP. L. 259 (1978). Professor Sachs concludes that the costs to consumers will be affected by whether manufacturers or their insurers are lower cost accident insurers and whether consumers would rather pay for the additional costs by way of higher product costs or self insurance. *Id.* at 277. As noted, however, a system of strict liability will deter manufacturers from allowing consumers to make that choice, so that the lower cost option is not available; nor is a manufacturer likely to waive liability coverage in the absence of a strong economic reason to do so unless liability insurance is unavailable.

¹⁰³ If, as the Interagency Task Force report states, each dollar of insurance premiums for product related injuries results in only 20 cents of compensation to the injured victims of products containing defects, then it can be expected that the administrative costs in passing this compensation on to those parties will be spread among the class of insured, some of whom may not represent the same threat of injury. INSURANCE STUDY *supra* note 99, at 2-1.

product design choice while at the same time not considering countervailing public policy considerations such as primary deterrence.¹⁰⁴ Imposition of the test of reasonableness, as is done by even such radical decisions as *Barker v. Lull*,¹⁰⁵ should also permit furtherance of those countervailing public policy considerations within that system of liability in order for it to function within the over-all system of tort loss distribution.

It has taken the form of an article of faith that manufacturers can spread the losses from injuries which persons suffer from use of their products through insurance or increased costs for future products.¹⁰⁶ Certain industry publications, however, challenge the proposition that future cost increases can accommodate the high cost of present damage awards.¹⁰⁷ And while the Interagency Task Force¹⁰⁸ report stated that no unavailability of product liability insurance presently exists, they acknowledged that the high cost of insurance in some industries may make it functionally (economically) unavailable, thereby driving certain enterprises into eliminating certain products or "going bare."¹⁰⁹ If the uninsurable product is no longer produced, other alternative products will face greater demand with what would be expected to constitute a higher subsequent price as demand increases notwithstanding production economies. The pass-on costs of the product's "covered" injuries would likewise result in higher product costs. The result of a manufacturer "going bare" will quite evidently be a reduction in the

¹⁰⁴ In similar fashion, Professor Sachs seems to assume that economic efficiency is the primary goal for any system of accident compensation, apparently ignoring the first justification for any system of loss shifting, that is, primary accident cost reduction. Although he acknowledges that one justification for a system of strict liability is the impact of such a system upon safer product development, he discounts the impact which such a system will have. Sachs, *supra* note 102, at 275-76. Professors Calabresi and Hirschoff, on the other hand, argue quite persuasively that specific deterrence will be replaced by "general" deterrence in a system of strict liability with a consequent total reduction in injuries. See generally Calabresi & Hirschoff, *Toward a Test for Strict Liability in Tort*, 81 YALE L.J. 1056-78, 1082-84 (1972).

¹⁰⁵ 20 Cal. 3d 413, 573 P.2d 443, 143 Cal. Rptr. 225 (1978).

¹⁰⁶ See note 94 *supra*.

¹⁰⁷ See SPORTING GOODS MANUFACTURERS ASS'N, THE NAKED TRUTH ABOUT SPORTS AND THE LAW (undated); AMERICAN MACHINE TOOL DISTRIB. ASS'N, A STATE LEGISLATORS GUIDE TO PRODUCT LIABILITY PROBLEMS 1 (1977).

¹⁰⁸ INSURANCE STUDY, *supra* note 99.

¹⁰⁹ *Id.* at 3-14.

available pool of assets from which an injured consumer may expect compensation for injuries and thus even the preferred system of secondary loss distribution may be adversely affected.

From the consumer's point of view, the result in any of these cases is a higher product cost. This is true whether the costs are the result of added precautions in the way of inspections or "safety features," or the pass-on costs of insurance. These higher costs are present even though a consumer might have preferred to have assumed the risk attendant in a certain product in exchange for a reduced product cost, or because the availability and cost of a first person form of insurance was preferable to the consumer.¹¹⁰

The notion that everyone should pay a little and that an individual suffering a large personal injury loss should not be forced to bear the total impact of that loss has a definite moral appeal.¹¹¹ Nowhere in tort law has this notion taken a more forceful hold upon the justification for a particular theory of liability than it has in manufacturer's strict liability.¹¹² The conclusion that the manufacturer is in the best position to absorb these costs or to pass them on in the form of higher costs in individual products due to higher insurance premiums has taken on the appearance of an article of faith virtually beyond peradventure. If they cannot pass on the costs of insurance or injury compensation, it is argued then that the manufacturer's profits will be reduced as they "absorb" those costs. The first question that should be addressed, however, is whether the imposition of liability will effect an overall reduction or increase in the total number of injuries to be secondarily spread.

¹¹⁰ See Sachs, *supra* note 102.

¹¹¹ 2 HARPER & JAMES, THE LAW OF TORTS 759-64 (1956). It has its analogue in economic theory in that the advantages of taking a small sum of money from one person would result in less serious economic dislocation, and therefore, lower secondary or avoidable losses; and in the theory that a small loss from a large number of people is preferable to a large loss from a single person since "people feel they suffer less if 10,000 of them lose \$1.00 than if one loses \$10,000." Calabresi & Hirschhoff, *supra* note 104; Calabresi, *Some Thoughts on Risk Distribution and the Law of Torts*, 70 YALE L.J. 499, 517 (1961). That this exists as the fundamental social justification for permitting a defendant to spread liability through liability insurance in a system in which fault deterrence is a principal concern has been expressed elsewhere. See Walkowiak, *supra* note 22.

¹¹² See cases cited in note 94 *supra*.

CONCLUSION

The theory of strict liability for injuries caused by defective products has evolved to a point where important questions concerning its function as a rule of loss distribution need to be answered. As first applied to cases of manufacturing defects, the strict liability theory was closely tied to the traditional reasonableness standard of conduct. In this context, the loss distribution functions of strict liability, both as a tool of primary loss reduction and secondary loss spreading, were not markedly different from those of the traditional standard of negligence or "fault." As applied in manufacturing defect cases, in fact, the rule of strict liability can be viewed to a large extent as one of proof; plaintiffs were benefitted primarily by a presumption or imputation of knowledge to the manufacturer, with the manufacturer's conduct in marketing the product then measured against the familiar standard of reasonableness. The same analysis applies to cases of inadvertent design defect.

When applied to cases of conscious design choice, however, the rule of strict liability may have very different implications. Starting with the hypotheses that the manufacturer *did* know of the risk involved, and did *not* act unreasonably in designing the product as he did, the question arises whether the manufacturer has deviated from any standard of conduct which society imposes. The answer of the courts has been that they are not concerned with the manufacturer's conduct, but with the condition of the product itself. This, however, overlooks what should be the primary goal of any rule of tort law: reduction of losses through the deterrent effect of the imposition of liability. It is only *conduct* which can be deterred; no court has yet suggested that products themselves are subject to the deterrent effect of money judgments. A rule of liability which cannot be linked to "faulty" conduct, even through the use of fictions, must be subject to doubt so far as its deterrent effect and efficacy as a primary loss reducer are concerned.

In the conscious design choice cases, then, the predominance of secondary loss spreading—"deep pocket" law—as a basis for strict liability becomes clearly apparent. It is possible, however, that by permitting losses to be spread too broadly, the combination of strict liability and insurance actually has a perverse effect on the goal of primary loss reduction. There is no "faulty" conduct

from which the manufacturer can be deterred, and neither the manufacturer nor the consumer expects to bear the full cost of product-related injury. In short, there may be very little incentive for the manufacturer to produce, or for the consumer to seek out, products which pose lesser risks of injury. Losses are well distributed, but there may be more losses than are necessary under a system of primary loss reduction through liability shifting. If the system of compensation for these injuries was economically efficient, criticism of it as a system of loss distribution would be misplaced. Since it is not efficient or fair, however, its justification must lie in its effectiveness as a primary loss reducer.

This is not to suggest a wholesale abandonment of the strict liability theory. To the contrary, it works well in cases of manufacturing flaws and inadvertent design errors, and in those contexts appears consistent with both the primary and secondary loss distribution goals of the tort law system. The problem of conscious design choices, however, points up clearly the limits of the theory, especially with respect to primary loss deterrence and reduction. Extension of the strict liability theory to these cases should be accompanied by a serious inquiry into the standard of conduct thereby imposed on manufacturers, and into the desirability of placing some limitation on the ability of defendants to spread their losses to the manufacturers of safer products and to the public in general, or into the abandonment of an inefficient system of liability shifting in favor of a more direct system of compensation.